

**DYNAMIC CONTROL SYSTEM AND METHOD FOR MULTI-  
COMBUSTOR CATALYTIC GAS TURBINE ENGINE**

**ABSTRACT OF THE DISCLOSURE**

According to one aspect, a method of controlling a multi-combustor catalytic combustion system is provided for determining a characteristic of a fuel-air mixture downstream of a preburner associated with a catalytic combustor and adjusting the fuel flow to the preburner based on the characteristic. The characteristic may include, for example, a measurement of the preburner or catalyst outlet temperature or a determination of the position of the homogeneous combustion wave in the burnout zone of the combustor.